Amendments to the Specification

Please amend the specification as follows. No new matter has been added.

Please replace the paragraph at the bottom of page 1 bridging into page 2 with the following paragraph.

The shrinkage of the circumference of a cross section profile curve of the cavity of a TCC mold in a casting direction must be equal or a little less than solidification shrinkage of a slab shell. If the former is more than the latter, the slab shell shall be subject to additional deformation, uniform contact between the slab shell and the inside wall of the TCC mold cannot be attained, the temperature in some areas of the slab shell may be overly high or overly low, and there is a potential increase for the slab shell to develop cracks; or a drag against pulling the slab may be overly large, or even the slab shell may be pulled or broken, which will result in an uneven wear of the TCC mold and a reduced lifecycle of the copper plates of the same. If the former is far less than the latter, an overly large clearance may occur between the slab shell and the inside walls of the TCC mold, which may lead to an increased heat transfer resistance and cause that a slab shell which has already solidified be melted again, and thus the slab may have defects due to thermal stress.

Please replace the paragraph at page 15, lines 2-10 with the following paragraph.

In Fig. 13, a comparison of the upper opening curves in horizontal direction between a TCC mold of the prior art and a TCC mold of the invention is shown. In the figure, α denotes the prior art, and β denotes the present invention. This also applies to Figs. 14-20. In Fig. 14, a comparison of the first derivatives of upper opening curves in horizontal direction between a TCC mold of the prior art and a TCC mold of the invention is shown. In Fig. 15, a comparison of the second derivatives of upper opening curves in horizontal direction between a TCC mold of the prior art and a TCC mold of the invention is shown. In Fig. 16, a comparison of the curvatures of upper opening curves in horizontal direction between a TCC mold of the prior art and a TCC mold of the invention is shown.

Please replace the abstract with the following abstract.

A water-cooled mold for continuous casting includes two water-cooled wide copper plates arranged opposite to each other in a front and back direction and two water-cooled narrow copper plates arranged opposite to each other in a left and right direction. The upper portion of the cavity of the mold is a sprue area and the lower portion of the cavity is a mold cavity area. The sprue area is gradually narrowed in the casting direction and smoothly transited into the mold cavity, corresponding to the shape of a slab to be cast. The inside surfaces of the water-cooled narrow copper plates are smooth planar surfaces. A portion of the inside surface of the water-cooled wide copper plates in the sprue area is a curved surface and another portion in the mold cavity area is a planar surface. The curved surface and the planar surface portions form a continuous smooth surface.

Please replace the paragraph at page 4, line 3 to page 5, line 14 with the following paragraph.

A water-cooled mold for continuous casting, comprising two water-cooled wide copper plates which are arranged opposite to each other in front and back direction and two water-cooled narrow copper plates which are arranged opposite to each other in left and right direction, so that all the four plates form a cavity of said mold; an upper portion of a cavity of the mold being a sprue area and a lower portion of the cavity being a mold cavity area, the sprue area being gradually narrowed in a casting direction and smoothly transited into the mold cavity, which corresponds to a shape of a slab to be cast; an inside surface of each of the water-cooled narrow copper plates being a smooth planar surface; a portion of an inside surface of each of the water-cooled wide copper plates that is in the sprue area being a curved surface, and a portion of the inside surface that is in the mold cavity area being a planar surface, the curved surface portion and the planar surface portion forming a continuous smooth surface; and a central point O_1 (See Fig. 1) of a top face of the mold being an intersection point of a central axis of the mold with the top face of the sprue area, the curved surface portions of the cavity surfaces of the water-cooled wide copper plates are formed of such points P that they are intersection points of first

curves and second curves, wherein the first curves are located in horizontal cross sections at different heights of the central axis of the mold, and are left-right symmetrical, a distance from a peak point of every first curve to the central axis being H+h, and a distance from a valley point of every first curve to the central axis being h; every first curve is composed of a curve segment in the middle and two linear segments at two opposite ends adjacent to the water-cooled narrow copper plates, each of the two linear segments having a length l_0, and the curve segment having a width L with two opposite endpoints, *p* and *q*; wherein the second curves are located in longitudinal sections parallel to the water-cooled narrow plates, every second curve is composed of an upper inclined linear segment with a slope *k*, a middle curve segment with a connection point *m* to the inclined linear segment, and a lower vertical linear segment parallel to the central axis with a length d_0 and a connection point *n* to the curve segment; in the mold, every second curve has an overall height $D+d_0$, and a distance between point *m* and point *n* projected on the central axis is d (See Fig. 2); wherein the first curves meet the following equation:

$$f(x) = \sum_{i=0}^{n} a_i x^i$$

where n has a minimum value of 6, $a_i=f_i$ (H, L); f_i meets that the second derivatives at points *p* and *q* are continuous; wherein the second curves meet the following equation:

$$f(z) = \sum_{j=0}^{m} b_j z^j$$

where m has a minimum value of 5, $b_j=f_i$ (D, d, k); f_i meets that the second derivatives at points *m* and *n* are continuous.